

Amendments to the Claims:

This listing of claims will replace, without prejudice, all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-12 (canceled).

13. (currently amended) A protective layer that is relatively permeable for CO₂ and is relatively impermeable for SO₂, comprising:

a gas-permeable carrier made of a material that is resistant to sulfuric acid media including SO₂ and SO₃; and

a hollow area disposed in the carrier, bounded by an inner surface that can be exposed to a gas and is provided with a coating of an oxidizing agent having an oxidation potential that is sufficient to oxidize SO₂.

14. (previously presented) The protective layer according to claim 13, wherein:
the oxidizing agent is a nonvolatile oxidizing agent.

15. (previously presented) The protective layer according to claim 13, wherein:
the oxidizing agent includes potassium permanganate.

16. (previously presented) The protective layer according to claim 13, wherein:
the gas-permeable carrier includes aluminum oxide.

17. (previously presented) The protective layer according to claim 13, wherein:
the gas-permeable carrier includes at least one tube having an inside wall provided
with the oxidizing agent.

18. (previously presented) The protective layer according to claim 17, wherein:
the gas-permeable carrier includes a block having a plurality of axially

parallel

cylindrical tubes aligned side by side.

19. (previously presented) The protective layer according to claim 18, wherein:
the cylindrical tubes correspond to round cylinders.

20. (previously presented) The protective layer according to claim 17, wherein:
the gas-permeable carrier includes a block having a plurality of tubes
arranged side by side in a radial alignment relative to one of a straight line
and a point.

21. (previously presented) The protective layer according to claim 20, wherein:
the tubes have a cross section that tapers toward the one of the
straight line and the
point.

22. (previously presented) The protective layer according to claim 13, wherein:
the gas-permeable carrier includes at least one grid having intersecting
grid rods
that are provided with the oxidizing agent.

23. (previously presented) The protective layer according to claim 22, wherein:
the gas-permeable carrier includes a block having a plurality of grids
stacked one
above the other.

24. (Currently amended) A CO₂ sensor, comprising:
a protective layer including:
a gas-permeable carrier made of a material that is resistant to sulfuric
acid media
including SO₂ and SO₃, and

a hollow area disposed in the carrier, bounded by an inner surface that can be exposed to a gas and is provided with a coating of an oxidizing agent having an oxidation potential that is sufficient to oxidize SO_2 , the protective layer separating the CO_2 sensor from a room to be monitored for a CO_2 content.

25. (previously presented) The CO_2 sensor according to claim 24, wherein:
the CO_2 sensor is for a smoke detector.
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